

CLAIMS:

1. Spherical particles for thermal spraying, consisting essentially of a rare earth(inclusive of yttrium)-containing compound and having a breaking strength of at least 10 MPa and an average particle diameter of 10 to 80 μm .
2. Spherical particles for thermal spraying, consisting essentially of a rare earth(inclusive of yttrium)-containing compound and having a bulk density of at least 1.0 g/cm^3 , an aspect ratio of up to 2, and a cumulative volume of pores with a radius of up to $1 \mu\text{m}$ which is less than $0.5 \text{ cm}^3/\text{g}$.
3. The spherical particles of claim 2 having a particle size distribution in which a particle diameter D90, D50 and D10 corresponds to 90 vol%, 50 vol% and 10 vol% accumulation, respectively, wherein D90 is up to $100 \mu\text{m}$ and the ratio of D50 to a Fisher diameter is up to 5.
4. The spherical particles of claim 3 wherein D10 is at least $5 \mu\text{m}$, and the particles have a dispersion index of up to 0.6.
5. The spherical particles of claim 1 wherein said rare earth-containing compound is a rare earth oxide or rare earth compound oxide.
6. The spherical particles of claim 2 wherein said rare earth-containing compound is a rare earth oxide or rare earth compound oxide.
7. A thermal sprayed component comprising a substrate having a surface and a coating of the rare earth-containing compound particles of claim 1 thermally sprayed to the substrate surface.

8. A thermal sprayed component comprising a substrate having a surface and a coating of the rare earth-containing compound particles of claim 2 thermally sprayed to the substrate surface.

208020 2052600T